



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,374	02/07/2001	Vladimir Mancevski	500929.000008	7983

7590 09/21/2004
Mr. Paul McClure
Xidex Corporation
8906 Wall Street, Suite 105
Austin, TX 78754

EXAMINER

SMITH, BRADLEY

ART UNIT	PAPER NUMBER
----------	--------------

2824

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,374

Applicant(s)

MANCEVSKI, VLADIMIR

Examiner

Bradley K Smith

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 117-133 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 117-121, 123, 125-127, 129 and 131-133 is/are rejected.
- 7) ☒ Claim(s) 122, 124, 128 and 130 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/23/02</u> . | 6) <input checked="" type="checkbox"/> Other: <u>search notes</u> . |

DETAILED ACTION

Election/Restrictions

1. Claims 1-17, 59-64, 66-74, 92-97, 101-110, 113, and 115-116 withdrawn from further consideration pursuant to 37 CFR 1.142(b) there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/8/04.

Priority

2. If applicant desires priority under 35 U.S.C. 365(c) based upon a previously filed application, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. ____" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

Specification

Art Unit: 2824

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: devices comprising carbon nanotubes.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 117-121 are rejected under 35 U.S.C. 102(e) as being anticipated by Crowley (US Patent 6,038,060). With regards to claim 117-119 Crowley disclose at least on vertically oriented nanotube in a controlled foraminous (template) silicon based substrate (see column 5 lines 53-65). With regards to claim 120 the examiner notes that

Art Unit: 2824

since the carbon nanotube is outside of the substrate (figure 3) that this would constitute the nanotube being partially electrically isolated from the substrate (since air is a good insulator). With regards to claim 121, Crowley disclose at least one vertically oriented carbon nanotube; and at least one horizontal conductive layer, wherein the said horizontal conductive (doped) layer is electrically coupled to said vertically oriented carbon nanotube (see column 6 lines 1-20).

6. Claims 121, 123, 125-127 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al. (US Patent 6,504,292). With regards to claim 121, Choi et al. discloses Crowley disclose at least one vertically oriented carbon nanotube; and at least one horizontal conductive layer, wherein the said horizontal conductive layer is electrically coupled to said vertically oriented carbon nanotube. With regards to claims 123 and 125 Choi et al. disclose a blanket deposited film and tungsten. With regards to claims 126 and 127, Choi et al. disclose at least one vertically aligned carbon nanotube. wherein said vertically aligned carbon nanotube is fabricated within vertically aligned holes within a substrate material; and at least one horizontal conducting interconnect, wherein said interconnect (deposited metal) is electrically coupled to said vertically aligned carbon nanotube and the substrate being an undoped silicon.

7. Claim 129 and 131 are rejected under 35 U.S.C. 102(e) as being anticipated by Martel et al. (Single and multiwall carbon nanotube field effect transistors). Martel et al disclose a first electronic device, a second electronic device, and at least one carbon nanotube, wherein the said carbon nanotube is electrically coupled to said first

Art Unit: 2824

electronic device and said second electronic device and the nanotube is horizontal (see figure 1).

8. Claims 132 and 133 are rejected under 35 U.S.C. 102(e) as being anticipated by Menon et al. (Fullerene derived molecular electronic device). With regards to claim 132, Menon disclose at least one vertically oriented carbon nanotube', and at least one horizontally oriented carbon nanotube, wherein the said horizontally oriented carbon nanotube is electrically coupled to the said vertically oriented carbon nanotube (see figure 1). With regards to claim 133, Menon disclose a first carbon nanotube, a second carbon nanotube, and wherein said first carbon nanotube crosses path with said second carbon nanotube at a point such that said first carbon nanotube and said second carbon nanotube are electrically coupled (see figure 2).

Allowable Subject Matter

9. Claims 122, 124, 128 and 130 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach nor suggests the horizontal conductive layer includes patterned lines (claims 122 and 128), the nanotube being conductive (claim 124), or the a vertically oriented nanotube coupling two devices (claim 130).

Conclusion

Art Unit: 2824

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley K Smith whose telephone number is (571) 272-1884. The examiner can normally be reached on 10-6 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brad Smith
Patent Examiner